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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,811	07/24/2001	Ulrich Hetzer	P01,0236	6272
26574	7590	07/29/2004	EXAMINER	
SCHIFF HARDIN, LLP PATENT DEPARTMENT 6600 SEARS TOWER CHICAGO, IL 60606-6473			LIANG, LEONARD S	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/911,811

Applicant(s)

HETZER ET AL.

Examiner

Leonard S Liang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 13-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

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DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-12 in the reply filed on 05/06/04 is acknowledged. Claims 13-23 are hereby withdrawn from consideration.

Specification and Drawings

The lengthy specification and drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification and drawings.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-8, 10-17, and 20-22, and 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Bullock et al (US Pat 5812156) in view of Barton (EP Pat 0668165A2).

Bullock et al discloses:

- {claim 1} An ink cartridge (figure 4, reference 20)

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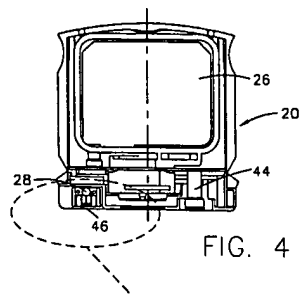


FIG. 4

having an ink jet printhead (figure 1A, reference 6)

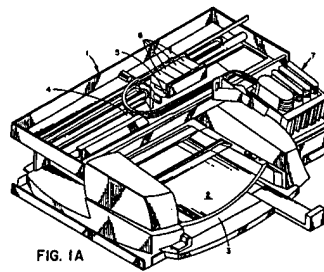


FIG. 1A

and a drive unit (figure 1B, reference 40)

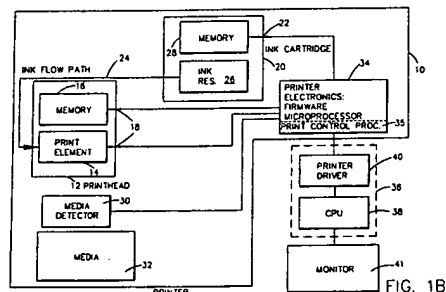


FIG. 1B

connected to the ink jet printhead for heating, measuring a temperature of, and driving the ink jet printhead (column 4, lines 1-13); control unit (figure 1B, reference 38); first and second memory areas (abstract; column 3, lines 1-44; column 4, lines 14-67; ink supply value, drop volume parameter, temperature sense resistor calibration data, firing energy parameters, and print mode coefficients are examples of warm-up data)

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- {claim 2} second memory (figure 1B, reference 28; column 4, lines 14-67)
- {claim 3} serial number (column 4, line 41)
- {claim 4} manufacture identification number (column 4, line 25)
- {claim 6} the memory is disposed on the ink cartridge and wherein the second memory area additionally contains identification data uniquely identifying the ink cartridge and data representing further predetermined conditions allocated to the identification data, and wherein the control unit is programmed to interrogate the memory to execute the data followup employing the further predetermined conditions allocated to the identification data (figure 1B, 4, reference 28; column 2, lines 27-32; column 4, lines 1-67)
- {claim 7} serial number (column 4, line 41)
- {claim 8} manufacture identification number (column 4, line 25)
- {claim 10} the drive unit includes a sensor for measuring the temperature of the ink jet printhead, the sensor generating sensor data representing the temperature, and wherein the control unit is programmed to interrogate the sensor data via the drive unit for determining the warmup data (column 4, lines 4-17; column 6, lines 49-52)
- {claim 11} user interface (figure 1B, reference 38; column 2, lines 14-17; column 3, lines 1-8; The teaching “When a printing operation is initiated...” naturally suggests user interface); communications link

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(figure 1B, reference 38; column 3, lines 1-8; column 4, user is identified by CPU as one who initiates print operation and installs cartridge)

- {claim 12} date clock module (column 4, lines 36-38, 49, 57; column 5, lines 2-4; manufacture day/year and usage time naturally suggests date clock module)

Bullock et al differs from the claimed invention in that it does not disclose:

- {claim 1} a sensor connected to the drive unit for measurement of ambient temperature; the control unit being programmed to implement at least one measurement of the ambient temperature with the sensor, and to determine warmup data for a fast start for a current warmup cycle dependent upon the ambient temperature and dependent on the at least one predetermined condition

Barton discloses:

- {claim 1} A sensor connected to a drive unit for measurement of ambient temperature, where the sensor works with printer memory

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the ambient temperature sensor of Barton into the invention of Bullock et al. The motivation for the skilled artisan in doing so is to gain the benefit of selecting the printer's optimal operational subroutines (column 2, lines 42-45). The combination naturally suggests the control unit being programmed to implement at least one measurement of the ambient temperature with the sensor, and to determine warmup data for a fast start for a current warmup cycle dependent upon the ambient temperature and dependent on the at least one predetermined condition. Though Bullock

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et al does not explicitly use the term “warm-up”, it should be clear that Bullock et al naturally implies an arrangement for data follow-up for a warmup cycle of an ink jet printhead. This is demonstrated in Bullock et al by the initiation of a printing operation (column 3, lines 1-2) as well as the disclosure that “The contents of memories 16 and 28 will be considered in detail below and, as will be understood, are instrumental in enabling real time control of ink jet printer 1 to produce high quality printed media.” The term “real time control” implies that the memory parameters of Bullock et al are used throughout the printing operation, such as during the printing initiation (i.e. warm-up). Furthermore, Bullock et al discloses the use of memory when an ink cartridge is replaced, and it is well known to one of ordinary skill in the art that a printer needs to be warmed up and calibrated to its new cartridge before it can successfully print. Finally, Bullock et al discloses temperature sense resistor calibration data and firing energy parameters as examples of memory parameters. It is well known to one of ordinary skill in the art that these parameters are crucial for a warm-up operation, since a warm-up operation usually involves the heating of the printhead (as evidenced by Smith et al {US Pat 4791435}; Barbour et al {US Pat 6435668}, and Fuse {US Pat 5673071}).

Claims 5 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Bullock et al (US Pat 5812156) in view of Barton, as applied to claim 1, and further in view of Berson (US Pat 5513563).

Bullock et al, as modified, discloses:

- {claims 5 and 9} serial number and manufacture identification number
(column 4, lines 25, 41)

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Bullock et al, as modified, differs from the claimed invention in that it does not disclose:

- {claims 5 and 9} the control unit comprises a security module for forming a code word by encryption of the serial number and the manufacture identification number, and wherein the control unit stores the code word in the second memory as at least a portion of the identification data

Berson discloses:

- encrypting serial number (column 3, lines 18-22)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Berson into the invention of modified Bullock et al so that serial numbers could be encrypted. The motivation for the skilled artisan in doing so is to gain the benefit of providing verifiable security (column 1, lines 46-47). The combination naturally suggests encrypting manufacture identification numbers and the control unit storing the code word in the second memory as at least a portion of the identification data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Léonard S Liang whose telephone number is (571) 272-2148. The examiner can normally be reached on 8:30-5 Monday-Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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LAMSON NGUYEN
PRIMARY EXAMINER
07/23/04